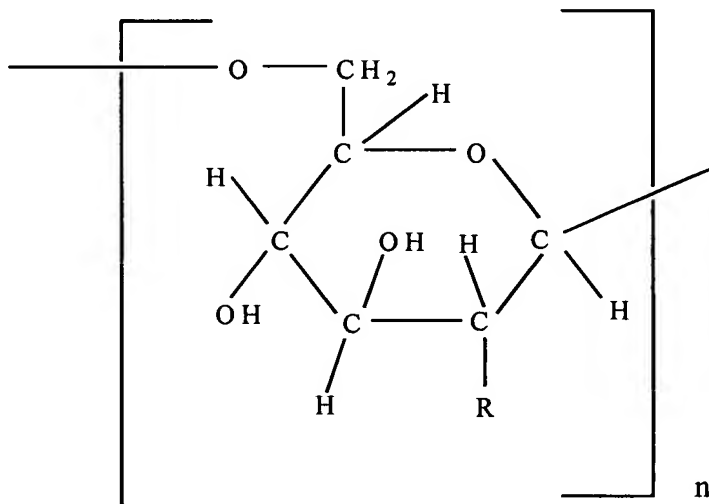


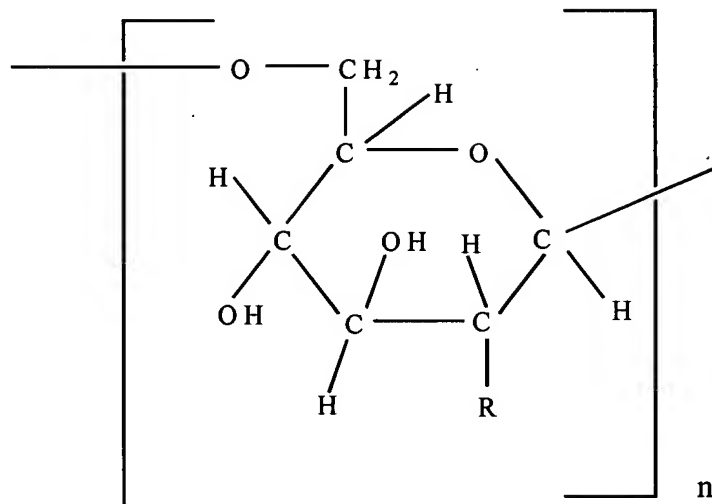
AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A composition comprising
an isolated polysaccharide comprising a β -1,6-glucosamine polymer, ~~having a length of at least four monomeric units,~~ wherein less than 50% 40% of glucosamine amino groups in the composition are substituted with acetate, ~~and~~ wherein the composition is sterile, and wherein the isolated polysaccharide has a structure of



wherein n is an integer that is at least four, wherein R is selected from the group consisting of -NH-CO-CH_3 and -NH_2 , ~~provided that less than 50% of the R groups are -NH-CO-CH_3 ,~~ and having has a molecular weight of at least 800 Daltons.

2. (Currently Amended) A composition comprising
an isolated polysaccharide comprising a β -1,6-glucosamine polymer, ~~having a length of at least two monomeric units,~~ and conjugated to a carrier compound, wherein less than 50% 40% of glucosamine amino groups in the composition ~~of the polysaccharide~~ are substituted with acetate, and wherein the isolated polysaccharide has a structure of



wherein n is an integer that is at least four, wherein R is selected from the group consisting of -NH-CO-CH₃ and -NH₂, ~~provided that less than 50% of the R groups are -NH-CO-CH₃, and having~~ has a molecular weight of at least 800 Daltons.

3. (Canceled)

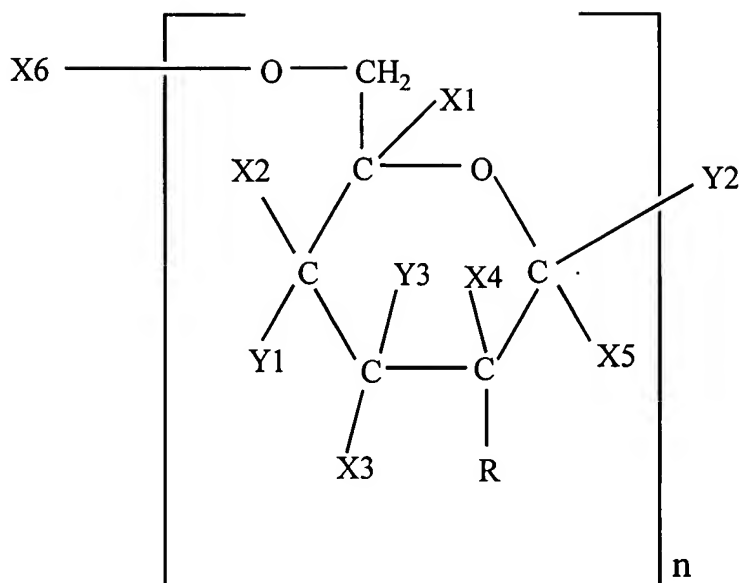
4. (Currently Amended) The composition of claim 1, wherein ~~less than 45%, less than 40%, less than 35%, less than 30%, less than 25%, less than 20%, less than 15%, less than 10%, or less than 5% of the glucosamine amino groups R groups are -NH-CO-CH₃, substituted with acetate.~~

5. (Currently Amended) The composition of claim 1, wherein none of the ~~R groups~~ glucosamine amino groups is ~~-NH-CO-CH₃, substituted with acetate.~~

6. (Previously Presented) The composition of claim 1, wherein the n is an integer selected from the group consisting of at least 6, at least 10, at least 20, at least 50, at least 100, at least 200, at least 300, at least 400 and at least 500.

7. (Previously Presented) The composition of claim 1, wherein the isolated polysaccharide is a hetero-substituted polymer.
8. (Previously Presented) The composition of claim 1, wherein the isolated polysaccharide has a molecular weight of at least 1,000 Daltons.
9. (Currently Amended) The composition of claim 1, wherein the isolated polysaccharide has a molecular weight selected from the group consisting of at least 1200 Daltons, at least 1500 Daltons, at least 2000 Daltons, at least 2500 Daltons, at least 5000 Daltons, at least 7500 Daltons, at least 10,000 Daltons, at least 25,000 Daltons, at least 50,000 Daltons, at least 75,000 Daltons, and at least 100,000 Daltons.
10. (Previously Presented) The composition of claim 1, wherein the isolated polysaccharide has a molecular weight selected from the group consisting of at least 125,000 Daltons, at least 150,000 Daltons, at least 200,000 Daltons, at least 250,000 Daltons, at least 300,000 Daltons, at least 350,000 Daltons, at least 400,000 Daltons, at least 450,000 Daltons, and at least 500,000 Daltons.
11. (Previously Presented) The composition of claim 1, wherein the length of the β -1,6-glucosamine polymer is selected from the group consisting of at least 6, at least 10, at least 20, at least 50, at least 100, at least 200, at least 300, at least 400 and at least 500 monomer units.
12. (Currently Amended) The composition of ~~claim 1~~ claim 2, wherein ~~less than 40%, less than 35%, less than 30%, less than 25%, less than 20%, less than 15%, less than 10% or less than 5% of the glucosamine amino groups are substituted with acetate.~~
13. (Currently Amended) The composition of ~~claim 1~~ claim 2, wherein none of the glucosamine amino groups is substituted with acetate.

14. (Currently Amended) The composition of claim 1, wherein the isolated polysaccharide ~~within the composition has a purity selected from the group consisting of~~ is at least 90% pure, at least 95% pure, at least 97% pure, and or at least 99% pure.
15. (Currently Amended) The composition of claim 1, wherein the isolated polysaccharide is conjugated to a carrier compound.
16. (Previously Presented) The composition of claim 15, wherein the isolated polysaccharide is conjugated to the carrier compound through a linker.
17. (Previously Presented) The composition of claim 15, wherein the carrier compound is a peptide carrier.
18. (Previously Presented) The composition of claim 1, further comprising a pharmaceutically acceptable carrier.
19. (Original) The composition of claim 2, wherein the composition is sterile.
20. (Previously Presented) The composition of claim 1, wherein the isolated polysaccharide is formulated as a vaccine.
21. (Currently Amended) ~~The~~ A composition comprising of claim 1,
an isolated polysaccharide comprising a β -1,6-glucosamine polymer, wherein less than 40%
of glucosamine amino groups are substituted with acetate, and wherein the isolated polysaccharide consists of the following structure:



wherein each of X1, X2, X3, X4, X5 and X6 is either H, a carrier compound, or a linker joined to a carrier compound; and each of Y1, Y2 and Y3 is either OH, a carrier compound or a linker joined to a carrier compound, wherein n is an integer that is at least four, wherein R is selected from the group consisting of -NH-CO-CH₃ and -NH₂, and has a molecular weight of at least 800 Daltons.

22. (Previously Presented) The composition of claim 21, wherein only one of the carrier compound or the linker joined to a carrier compound is conjugated to the structure.

23. (Currently Amended) The composition of claim 22 21, wherein only one of said X1, X2, X3, X4, X5 or X6 is conjugated to the carrier compound or the linker joined to the carrier compound.

24. (Currently Amended) The composition of claim 21, wherein only one of said Y1, Y2 or Y3 is conjugated to the carrier compound or the linker joined to the carrier compound.

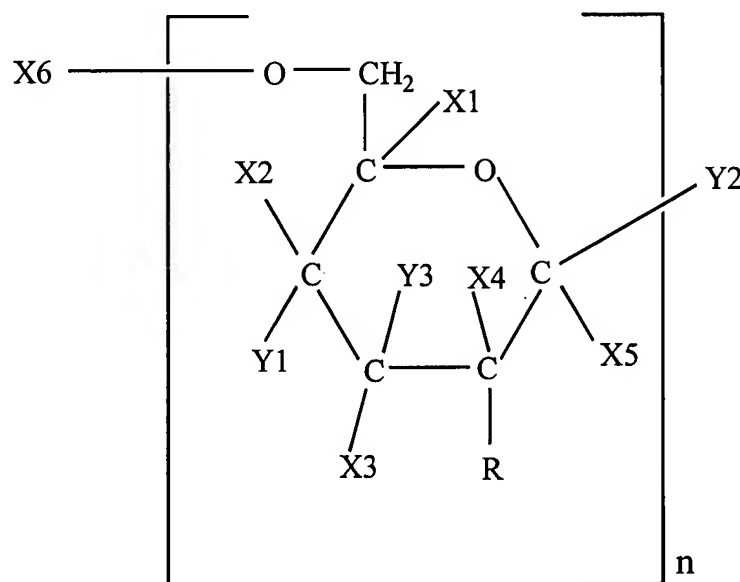
25. (Original) The composition of claim 22, wherein the carrier compound is a polysaccharide that is not an N-acetyl β 1-6 glucosamine.

26-41. (Cancelled)

42. (Previously Presented) A pharmaceutical composition comprising the isolated polysaccharide of claim 1, in an effective amount to stimulate an immune response in a subject, in a pharmaceutically acceptable carrier.

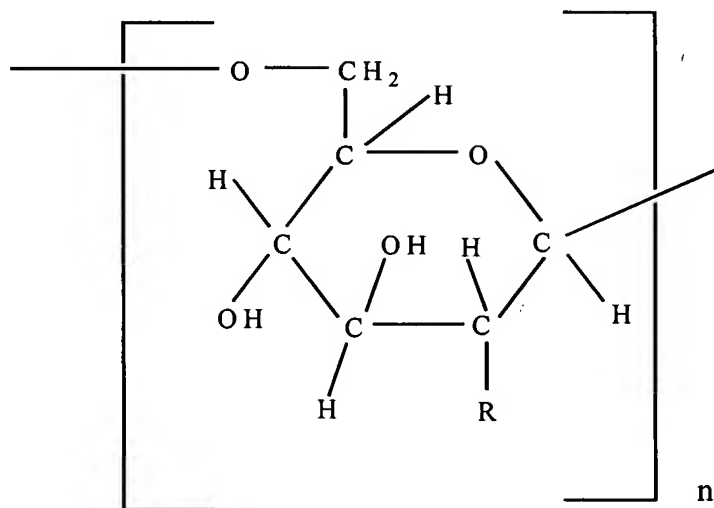
43-85. (Cancelled)

86. (New) An isolated polysaccharide comprising a β -1,6-glucosamine polymer, wherein less than 50% of glucosamine amino groups are substituted with acetate, and wherein the isolated polysaccharide has a structure of



wherein each of X1, X2, X3, X4, X5 and X6 is either H, a carrier compound, or a linker joined to a carrier compound; and each of Y1, Y2 and Y3 is either OH, a carrier compound or a linker joined to a carrier compound, wherein n is an integer that is at least four, wherein R is selected from the group consisting of -NH-CO-CH₃ and -NH₂, and has a molecular weight of at least 800 Daltons.

87. (New) The isolated polysaccharide of claim 86, wherein the isolated polysaccharide has a structure of



88. (New) The isolated polysaccharide of claim 86, wherein less than 45%, less than 40%, less than 35%, less than 30%, less than 25%, less than 20%, less than 15%, less than 10% or less than 5% of the glucosamine amino groups are substituted with acetate.

89. (New) The isolated polysaccharide of claim 86, wherein none of the glucosamine amino groups is substituted with acetate.

90. (New) The isolated polysaccharide of claim 87, wherein less than 45%, less than 40%, less than 35%, less than 30%, less than 25%, less than 20%, less than 15%, less than 10%, or less than 5% of the glucosamine amino groups are substituted with acetate.

91. (New) The isolated polysaccharide of claim 87, wherein none of the glucosamine amino groups is substituted with acetate.

92. (New) The isolated polysaccharide of claim 86, wherein the isolated polysaccharide has a molecular weight of at least 1,000 Daltons.

93. (New) The isolated polysaccharide of claim 86, wherein the isolated polysaccharide has a molecular weight selected from the group consisting of at least 1200 Daltons, at least 1500 Daltons, at least 2000 Daltons, at least 2500 Daltons, at least 5000 Daltons, at least 7500 Daltons, at least 10,000 Daltons, at least 25,000 Daltons, at least 50,000 Daltons, at least 75,000 Daltons, and at least 100,000 Daltons.

94. (New) The isolated polysaccharide of claim 86, wherein the isolated polysaccharide has a molecular weight selected from the group consisting of at least 125,000 Daltons, at least 150,000 Daltons, at least 200,000 Daltons, at least 250,000 Daltons, at least 300,000 Daltons, at least 350,000 Daltons, at least 400,000 Daltons, at least 450,000 Daltons, and at least 500,000 Daltons.

95. (New) The isolated polysaccharide of claim 86, further comprising a pharmaceutically acceptable carrier.

96. (New) The isolated polysaccharide of claim 86, wherein the isolated polysaccharide is sterile.

97. (New) The isolated polysaccharide of claim 86, formulated as a vaccine.

98. (New) The composition of claim 15, wherein the carrier compound is a carrier protein.